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| EXAMINER |
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XU, LING X

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| ART UNIT | PAPER NUMBER |
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1775

DATE MAILED: 12/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/645,110

Applicant(s)

BLACKMON ET AL.

Examiner

Ling X. Xu

Art Unit

1775

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 November 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-11,13-16,19-21 and 23-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-11,13-16,19-21 and 23-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 21 and 24-26 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for honeycomb core to be encased in vacuum containment, does not reasonably provide enablement for the honeycomb to be encased in any other containments. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3, 24 and 26-27 stand rejected under 35 U.S.C. 102(b) as being anticipated by Masaya et al. (JP-09-001701).

Masaya discloses a heat insulator comprising at least two honeycomb cores arranged in an offset arrangement and a container completely encasing the honeycomb cores and provides

Art Unit: 1775

vacuum containment of the honeycomb cores (abstract and Figure 1). The cells of the honeycomb have hexagonal shape (see figure 4). The vacuum container is made of thermal insulation material (abstract and claims).

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 3-7, 9, 13-16, 19-21 and 23-31 are rejected under 35 U.S.C. 102(e) as being anticipated by Maignan et al (US 2003/0207075).

With respect to claims 1, 4, 13, 15, 21, 23-25 and 27-28, Maignan discloses a thermal insulation material in a vacuum containment comprising at least two insulating plate of honeycomb material sandwiched between two aluminum-or gold-coated skins of low emissivity (abstract). The cells of the honeycomb are closed by sticking a skin onto each of the two main faces of a honeycomb plate when the material is put into vacuum (page 2, embodiment [0037]). Accordingly, each of the honeycomb cores is separately surrounded by a vacuum containment formed by the skin layer. Since the honeycomb cores are put into vacuum, the vacuum containment is considered sealed in order for the honeycomb structure to be in a vacuum and isolated from the non-vacuum environment.

Art Unit: 1775

Maignan also discloses that both the honeycomb cores (page 1, embodiment [0012]) and the skin are made of thermal insulation materials (page 1, embodiment [0017]).

With respect to claims 3, 5 and 30, Maignan discloses that the cells of the honeycomb have the same hexagonal shapes (see Fig. 3)

With respect to claims 6-7, Maignan discloses that the offset arrangement between the honeycomb cores are provided by horizontal shift as well as vertical shift (see Fig. 3).

With respect to claims 9, 15, 26, 29 and 31, Maignan discloses that both the honeycomb cores (page 1, embodiment [0012]) and the skin are made of thermal insulation materials (page 1, embodiment [0017]).

With respect to claim 14, Maignan discloses that each of the cores has the same thickness, see Figs 1-2.

With respect to claim 16, Maignan discloses that the skin layer coated with aluminum or gold, which is considered the radiation barrier material.

With respect to claims 19-20, Maingan discloses a method of making the insulation material (see page 2).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 1775

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Maingan as applied to claims 1 and 4 above, and further in view of the same reference.

As stated above, Maingan discloses that same insulation system as recited in claims 1 and 4.

Maingan does not disclose that the offset arrangement is provided by honeycomb cores of different geometrical shapes.

However, as stated in the specification, the arrangements may be provided by a horizontal shift, a vertical shift of the adjacent honeycomb cores or by utilizing honeycomb cores of different geometrical shapes, which indicates that the offset arrangements are a matter of choice based on the cost and the applications of the system . Therefore, absent persuasive evidence that the particular arrangement of the honeycomb core is significant, it would have been obvious to one of ordinary skill in the art to arrange the honeycomb cores as claimed when required by the application of the insulation system.

5. Claims 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maingan as applied to claims 1 and 4 above, and further in view of Jackson et al (US 6,767,606).

As stated above, Maingan discloses that same insulation system as recited in claims 1 and 4.

Maingan does not disclose that the honeycomb cores are made of metal such as aluminum.

Art Unit: 1775

However, it is well known in the art that the honeycomb cores can be made of metal. Jackson teaches that honeycomb may be made of a metallic material such as aluminum, which provides the necessary strength for the honeycomb core (col. 8, lines 50-60).

Therefore, it would have been obvious to one of ordinary skill in the art to use the honeycomb made of metal such as aluminum in order to provide improved strength for the insulation system disclosed by Maingan.

Response to Arguments

6. Applicant's arguments filed 11/4/2005 have been considered but are moot in view of the new ground(s) of rejection.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ling X. Xu whose telephone number is 571-272-1546. The examiner can normally be reached on 8:00 - 4:30 Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah D. Jones can be reached on 571-272-1535. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1775

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Ling X. Xu
Primary Examiner
Art Unit 1775